PLYMOUTH COLLEGE of ART

Making Futures

Digital Crafting: Defining the Field in 2015

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Introduction

This paper picks up some of the themes first considered at the Crafting with Digital Technologies workshop convened for Making Futures III (Plymouth College of Art and Oakley 2013) and further explored in the paper: Crafting with Digital Technologies: issues in Practice (Oakley 2014). The digital crafting panel at Making Futures IV: Digital Crafting: defining the field proved to be an opportunity to consolidate contributors' understandings around the topic, as well as reflect on how far attitudes towards digital processes had changed within different areas of craft over the intervening two years.
The presentations given during the day: position papers and case studies from returning panellists and new presenters (see this volume), did not disappoint. Some of the key points first identified at Making Futures III were reconfirmed through further case studies, whilst the discussions held were most useful as reflections on how far situations differed to or had moved on since 2013.

The panel, and conference as a whole, was held within a context of wider changes within the crafts world (e.g. Crafts Council 2014) and especially shifts in relations between craft, digital technology and 'digital crafting' in the UK and abroad. In reflecting on these developments, having attendees from America and Australasia was invaluable. Contributing the knowledge I gained regarding contemporary Asian traditional craft and digital crafting perspectives through presenting at Making Futures: Beijing in 2014 was an additional benefit. The Beijing digital crafting panel included presenters from Beijing, Barcelona. London, San Paolo and Shanghai, making the event truly global. This paper also benefits from my involvement in Making Futures: Korea – part of the Cheongju International Craft Festival - which took place shortly after Making Futures IV (see Oakley 2015). Private discussions with the other MFK presenters and some of the Cheongju festival exhibitors gave a unique insight into the regional issues currently faced by craft practitioners of all persuasions. As a result I now feel a little more confident in comparing the relative rise and perceptions of digital crafting across different global regions and nation-states as well as seeing new links between them: an exercise that helps deepen an understanding of the situation and possible future trajectories in one's own country.

Within the UK, it is noticeable that to a great extent the heat has gone out of the idea of digital making – at least in terms of public commentary and debate. A once apparently insatiable interest in the topic has waned in the face of what are now seen as more urgent issues: the questioned stability of existing political structures and geo-political alliances, including the future of UK within the EU (and questions over the UK and EU as coherent political entities in themselves): the increasingly strained infrastructure of our major cities; on-going uncertainty over the direction of the global economy and key nation-states; and starting from last year, the sudden influx of refugees to Europe and the consequent political and social fallout (which has added another layer of complexity to the first point in this list). Together these generally pessimistic issues have largely overtaken utopian proclamations on the future of manufacturing and design. However, whether this decline in interest is due to the relative potency or urgency of newer topics, or simply the inevitable result of new digital making technologies' now being in the 'Trough of Disillusionment' in the Gartner Hype Cycle (Gartner 2016) is harder to determine.

The loss of public attention towards digital making technologies – in particular 3D printing/additive manufacturing in all its forms – has had consequences, both good and bad. On the negative side, in the UK it has become harder to attract major funding for research projects and keep current research centres active, as funding bodies and educational institutions turn their attention to what are seen as the new hot topics. Recent months have seen the quiet closure of the Autonomatic research centre (Autonomatic 2014), which focused on the application of digital technologies to craft practice, as part of Falmouth University's general withdrawal from supporting craft (see Else 2014). Many other academics working on digital crafting are coping with the results of a similar unsupportive prioritisation of resources, especially in cases of major institutional restructuring. The nebulous nature of 'digital crafting' as a research topic plays against them, as it becomes harder to argue for something that seems unfocused and possibly subsumable by different parts of the institution. Researchers now face the negative material consequences of being perceived as a hybrid or inter-disciplinary field.

Though the hardships are not equally shared, the shrinking pool of possible inter-institutional research collaborators has also affected those of us who are in more secure and supportive environments.
This loss of enthusiasm for digital making has also been mirrored in the commercial world. We have recently seen a dramatic drop in the public valuations of, and sometimes simultaneous major staff layoffs in, key digital making companies (e.g. Adams 2016; Molitch-Hou 2015).

The decline in the level of expectations of what digital technologies can accomplish, at least in the short to medium term, has also had a positive aspect for those able to continue research in the area. The lack of continual high-level observation and demands for results has allowed for more reflection and consolidation of practice. Gone is the constant entreaty to consider 'new possibilities for materials and design' (e.g. MaDE 2007). It was difficult whilst being showered by a multitude of commentators' predictions to sort the hype from the truly substantial advances, to recognise realistic possibilities and to identify or acknowledge major and insurmountable barriers.

With the benefit of hindsight we can now recognise some obvious – one might even say inevitable – situations have come to pass. Limitations in the processes themselves, either within the capacity of materials, equipment or processes, are more easily recognised. So is the impossibility of surmounting fundamental economic or cultural factors within short timescales. The increased, if belated, recognition these issues exist has also led to a space for research that problematizes these aspects. An example of this more balanced approach is demonstrated by a recently initiated RCA School of Design project, funded by the EPSRC: Future Makespaces in Redistributed Manufacturing (RCA 2015). This project will examine the possible negative as well as positive consequences of the dispersed manufacturing that digital technologies facilitates.

Within the high-profile process of 3D printing, the underlying semiotics of the process itself, which it currently forces on all resulting objects, is acting as a break on expansion into areas not intimately associated with high-tech. Other digital making processes, which are not perceived in a similar way, have not suffered quite the same problem amongst audiences, though the problem persists within specialist practitioner communities.

However, the on-going resurgence of the promotion of traditional craftsmanship as a key feature of the identity of luxury goods is having a deadening effect on the open adoption of any sort of digital technology in the final construction (rather than prototyping) of many high-value items. I would predict that in the longer term the subjective classifications that drive these types of distinctions will have to undergo major revisions to resolve the existing tensions. However, at present this cultural barrier appears to be strengthening rather than eroding. It is a notable feature that many of the most commercially successful luxury goods that have combined established craft processes and novel digital making, such as the Talaris saddle by Hermès (see Nowness 2010), have been presented as hybrids. At the workshop a similar situation was described by Jemma Ooi in her case study of her own commercial working practice that crosses the digital and analogue divide (see this volume).

Within the context of funded research – as with the RCA's project on digital print: Exploring the Potential for Digital Printing on Ceramic Surface (see Brown 2015 for an overview) – the development process for digital crafting is being considered in years rather than months. The digital print project was funded by the AHRC as an examination of how existing technologies and imminent technical developments could potentially be exploited within a truly industrial context, as well as an opportunity to identify the major barrier to adoption. The project was seen as an opportunity to marry existing technology as a set of free-floating processes to the real and on-going needs of industrial ceramic manufacturing. This is hardly a blue-skies project, yet it has necessitated some significant rethinking of what the relationship between the two could be. As we reach the mid-point review of the project and a concomitant shift into a period of more convergent thinking, questions regarding what to prioritize – as well as possibilities beyond the reach of the current project's lifespan but worth pursuing - have both become more pressing and more important to identify. As we are currently discussing what avenues the research team might want to address beyond the life of this project, I am acutely aware the most substantial results will only appear towards the end of this decade.

The circumstances of the digital-print project illustrates a key issue around digital making, which is not unique to the area. In terms of individual identifiable results, (or to use the language of research – measurable outputs), the work is in its infancy. Yet even these findings are the result of over two years development, first in terms of constructing the bid, processing the application, followed by a year's worth of actual research. There is an obvious disparity here with commentators' timescales of days, weeks or at best, months. They only become interested once clear results appear, and interest is only maintained as long as successive remarkable innovations continue to be presented. In a world where the number of media news feeds are exponentially increasing, with all jockeying for the public's awareness, let alone interest or allegiance, such a slow pace of development has a hard time being represented.

So digital-crafting research exists in a curiously contradictory position: it is both nascent and obsolescent at the same time. Out-of-date in respect to the predictions of future-world commentators, it has yet to be realised as a clarified and consolidated body of knowledge and practice in the here and now. Already woven into the past history of craft e.g. the development of an affordable 3D printer was listed as one of the 'Fifty Moments that changed craft' (Crafts 2014), this same technology is simultaneously the subject of debate in terms of how it will generate the most fundamental changes in manufacturing (Lawler 2014). In some respects we appear to be little further on from the overview offered by McCullough over a decade ago (McCullough 2004). A similar ambiguity is evident in most of the Digital Crafting: Defining the Field workshop papers that follow. Perhaps the only time we will be able to fully categorise digital crafting is when it is recognised that it has been truly superseded by something else. To quote one of my own lecturer's favourite philosophical aphorisms: "the owl of Minerva spreads its wings only with the falling of the dusk" (see Smith 2009). Unfortunately, those of us more committed to practice than reflection have to find our way whilst Minerva's owl still has her head firmly tucked under her wing.

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